



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/621,788	07/21/2000	Daniele Casalini	12707 P03	4984

7590 05/21/2003

Jerry Cohen
Perkins, Smith & Cohen
One Beacon Street
Boston, MA 02108

EXAMINER

KEEHAN, CHRISTOPHER M

ART UNIT	PAPER NUMBER
----------	--------------

1712

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/621,788

Applicant(s)

CASALINI, DANIELE

Examiner

Christopher M. Keehan

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1712

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

The objection to claim 5 has been withdrawn due to applicant's amendments.

Claim Rejections - 35 USC § 102

The rejection of claims 1-8, 12, and 16-18 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Saam (4,244,849) has been maintained and is as set forth in the previous office action.

The rejection of claims 1-3, 5-12, and 14, 15, 17, and 18 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Swei (5,182,173) has been maintained and is as set forth in the previous office action.

Note: a call was made to applicant on or about May 5, 2003 requesting a new copy of Appendix A because claim 1 as amended 4/14/03 was incomplete. It looked like the end of the claim was missing. The subsequent fax received 5/5/03 from applicant, of the requested Appendix A, contained an illegible symbol - after (HV_{0.2}), the "≥" symbol is not legible. It was pointed out to the examiner that the fax as sent could not be entered because it was incomplete - the faxed pages needed to be accompanied by all of the pages (pages 1-6) and a signed page. Therefore, claim 1 still

Art Unit: 1712

needs to be fixed. It is requested that applicant, with response to this office action, submit a legible copy of the previous amendment so that the correction to claim 1 can be made of record. In addition, it would also be helpful if applicant deleted the language concerning "Appendix A" in future responses. This could create confusion during further processing as there is no appendix to the claims.

Response to Arguments

Applicant's arguments filed 4/14/03 have been fully considered but they are not persuasive. Regarding applicant's arguments concerning the 102/103 rejection of claims 1-8, 12, and 16-18 over Saam (4,244,849), on page 3 of applicant's response, that the presently claimed invention provides elastomeric layers, as noted above, which may also contain additional fillers, and cited col.7, line 21 as providing support for this comment, but it is not clear what is meant by applicant in this instance. There is no mention above of the instant invention providing elastomeric layers, and the citation of col.7, line 21 is not accompanied by a source. Applicant has argued (under Hardness of Fillers) on page 3 it is not correct to compare the hardness of the fillers of Saam with the hard material of the present invention. However, Saam includes in example 3 calcined alumina (as set forth in the previous office action), which is the same material as claimed by applicant. Regarding applicant's arguments (under polysiloxane type) on page 4, applicant has argued that the polysiloxane of Saam is different from applicant's. However, the claimed polysiloxane of applicant's is the same as Saam's (as set forth in the previous office action). Therefore, it appears the coating of Saam would inherently

Art Unit: 1712

have the same hardness as applicant's. Applicant has also argued (under Quantitative Ratio and Single Grid) that the added amounts of Saam are different than applicant's and the material of Saam is different than applicant's, but there is nothing in the rejected claims denoting the amounts of additives or the structure of the coating of Saam.

Applicant is reminded that the specification cannot be relied on to impart limitations to the claims that are not recited in the claim. Although a claim should be interpreted in light of the specification disclosure, it generally considered improper to read limitations contained in the specification into the claims. See *In re Prater*, 415 F.2d 1393, 162 USPQ 541 (CCPA 1969) and *In re Winkhaus*, 527 F.2d 637, 188 USPQ 129 (CCPA 1975).

Regarding applicant's arguments concerning the 102/103 rejections of claims 1-3, 5-12, and 14, 15, 17, and 18 over Swei (5,182,173), applicant has argued that the coating of Swei is different from applicant's. However, there is nothing in the rejected claims drawn to coating structure. Further, although applicant has argued that the coating of Swei does not have a hardness as instantly claimed, the same material as that used by applicant, aluminum oxide with a polysiloxane coating (as set forth in the previous office action), is used in Swei. Therefore, it would appear that the coating of Swei would inherently have the same hardness as applicant.

Applicant has argued the rejection of claim 13 over Swei (5,182,173) in view of Erickson et al. (5,645,619). Erickson et al. teach that applying heat in the instantly claimed temperature range to a material the same as claimed by applicant, more specifically a hard material with a hardness of ≥ 10 GPa, more specifically > 15 GPa,

Art Unit: 1712

comprising aluminum oxide, more specifically calcined and/or sintered alumina, removes excess water from the hard material before mixing. This is beneficial because one of ordinary skill in the art would not want more reactants present in the mixture than is desired – adding water from the hard material to the mixture can have detrimental effects on the product. Applicant has not provided an argument that contradicts this reasoning.

Examiner's Suggestions

The following are suggestions by the examiner to create a clearer prosecution record. These suggestions are not objections or rejections, but merely some things that might prove helpful upon consideration by applicant. Claims 2-18 contain the claim language "characterized in that", and it is suggested that applicant change this claim language to a phrase along the lines of "wherein ... comprises". This would be more in conformance with acceptable claim language and would be helpful during further prosecution of the application. The following sentence is an example of how this change could occur: in claim 3, for example, "characterized in that aluminum oxide is the basis of the hard material" can be replaced with the claim language "wherein the hard material comprises aluminum oxide" which appears more suitable.

Specification

The disclosure is objected to because of the following informalities: the paragraph bridging pages 4 and 5, as written, defines the claims. The claims should be

Art Unit: 1712

defined by the specification rather than the specification being defined by the claims.

Appropriate correction is required.

New Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, it is not clear what is meant by "(HV_{0.2})", and the specification does not provide a definition for this term. It is the examiner's position that HV pertains to Vickers Hardness, but the 0.2 subscript is not readily evident. Also in claim 1, the claim language "Surface coated hard material with a hardness of.." is not clear. It is not clear if the hardness is a property of the hard material or the surface coated hard material. In addition, the claim language in claim 3 "aluminum oxide is the basis of" is also unclear. It is not clear what is meant by "is the basis of". In claim 5, the amended claim language "where R is a known radical for polysiloxanes" is not clear and is not supported by the specification. Also, in claim 5, the "n" value has no definition in the formula. It is recommended that claim 7 be combined with claim 5 to define the "n" value. In claim 12, although applicant has claimed a method of producing a hard material as defined in claim 1, the claim is only drawn to a method of mixing a hard material with a polysiloxane. There are no coating steps as the hard material is defined in claim 1. Further, in claim 12, the claim language

Art Unit: 1712

"a diluted emulsion" is unclear. An emulsion is defined as "a suspension of small globules of one liquid in a second liquid with which the first will not mix" (Webster's II New Riverside University Dictionary). Therefore, "a diluted emulsion" is not clear, as an emulsion is by definition already diluted. In claim 15, the claim language "100°C" should be replaced with the numbers "100°C". It appears that applicant has entered the letters IOO instead of the numbers 100.

Regarding the new claim rejections as set forth below, the following reasoning was employed in evaluating a silicone vs. the claimed polysiloxane in claim 1. This reasoning was applied in each case but, for brevity, discussed here. A silicone resin is defined as "any of a group of semi-organic polymers based on the structural unit R_2SiO , where R is an organic group..." (Webster's II New Riverside University Dictionary). A siloxane is defined as "any of a class of organic or inorganic chemical compounds...based on the structural unit R_2SiO ...". A polysiloxane is merely many molecules of siloxane. Therefore, as the definition of a silicone resin appears to read on the definition of siloxane, of which polysiloxane is claimed by applicant, these can be equated. It should also be noted that these rejections, pending a delineation between HV or Vickers Hardness and the instantly claimed $HV_{0.2}$, are based on the understanding that the difference between each type of hardness is not significant. If, however, applicant shows there is a difference between the two types of hardnesses, then it appears these rejections would be overcome because applicant specifically claims $HV_{0.2}$.

New Claim Rejections - 35 USC § 102

Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chen et al. (5,991,591). Chen et al. disclose a surface coated hard material of zirconia ceramic (col.4, lines 23-25), the surface of which has a polysiloxane coating (col.11, line 54-col.12, line 45). Although Chen et al. do not specifically disclose a hardness ($HV_{0.2}$) as instantly claimed by applicant, it appears, absent evidence to the contrary, that the hardness as instantly claimed is inherently disclosed by Chen et al. because there does not appear to be a significant difference in the claimed hardness of applicant and the hardness of Chen et al.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Neal (6,510,777 B2). Neal discloses a surface coated hard material with a hardness of at least approximately 15 GPa (col.2, lines 45-56), the surface of which has a polysiloxane coating (col.4, lines 44-54). Although Neal does not specifically disclose a hardness ($HV_{0.2}$) as instantly claimed by applicant, it appears, absent evidence to the contrary, that the hardness as instantly claimed is inherently disclosed by Neal because there does not appear to be a significant difference in the claimed hardness of applicant and the hardness of Chen et al.

Regarding claim 3, Neal discloses a hard material comprising alumina oxide (col.2, lines 25-35).

Art Unit: 1712

Conclusion

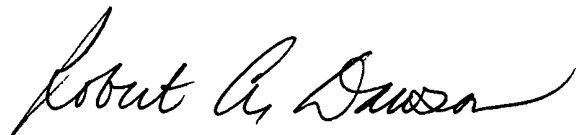
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (703) 305-2778. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Christopher Keehan *CMK*

May 14, 2003



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700